

Truckee Meadows Flood Control Project

March 2005 Newsletter



The Corps' Planning Process Explained

Over the past couple of months we have been explaining each of the six Corps' planning steps to help you understand the process that the Corps goes through in selecting the alternative that has federal interest and is presented in our GRR for congressional consideration.

To recap, there are six iterative steps to the Corps' planning process. These are:

1. Specify Problems and Opportunities
2. Inventory and Forecast Conditions
3. Formulate Alternative Plans
4. Evaluate Effects of Alternative Plans
5. Compare Alternative Plans
6. Select Recommended Plan

This month we are discussing Step 5, Compare Alternative Plans. When more than one plan is being evaluated, it is impossible, in fact it's undesirable, to evaluate the plan without performing some type of comparison between the plans. In most Corps Civil Works planning studies, comparison will reveal the plan expected to produce the greatest net economic benefits. This is the **NED Plan** that you've heard about. For this project, we will be comparing a multipurpose project that has economic benefits (flood control) and non-monetary benefits (ecosystem restoration). These are known as the **NED/NER or Combined Plans**. As you can imagine, this process is more complicated

It's important to note that comparison is not decision making; this happens in Step 6. Because no one plan is likely to be the best in all areas of comparison, we have to

compare the effects of the various plans and make trade offs among the differences observed. In the previous evaluation step (Step 4), Evaluating Effects of Alternative Plans, we looked at the effects on each plan individually. In this comparison step, we look at important effects across all plans and identify any differences.

The purpose of plan comparison is to identify the most important effects (economic, social, environmental, etc.) and to compare the plans against one another across those effects.

Ideally, the comparison will conclude with a ranking of a plan or some identification of advantages and disadvantages of each plan for use by decision makers. Comparison is based on different contributions of the alternative plans and include:

- Some measure of how well plans do against the planning objectives and constraints;
- Any dollar costs and benefits of the plans;
- Effects required to be considered by law or policy;
- Effects that are important to stakeholders and the public; and
- Screening criteria for completeness, effectiveness, efficiency and acceptability.

There are various methods the Corps can use to compare effects. Three methods we will be using on this study are **net benefit analysis**, **cost effective analysis** and **trade-off analysis**.

Net benefit analysis is the most widely used method of comparison for flood damage reduction. By measuring effects in dollar

values, such as benefits and costs, we can calculate the net effects of each plan and easily compare net benefits among plans (we do not compare the cost-benefit ratios).

Cost effectiveness analysis is used in environmental planning to identify least cost solutions for various levels of benefits by measuring plan costs in dollars and plan benefits in non-monetary terms called habitat units. Habitat units are derived from a habitat evaluation procedure (HEP) as plan outputs.

Trade-off analysis is the last comparison analysis we perform and is used to identify the potential losses and gains associated with producing a larger or lesser amount of a given output. For this project, the outputs evaluated in the trade-off analysis are flood damage reduction benefits, average annual habitat units (AAHU) gained and total annual cost of the project. This analysis includes identifying the preference (or weighting) of a type of output over another, normalizing to allow monetary and non-monetary benefits to be compared, and a ranking of the plans to facilitate decision-making.

Next month look for a discussion of Step 6; Select Recommended Plan, the final step in the Corps' plan formulation process.

Washoe County Floodplain Management Strategy

Washoe County Regional Planning Commission is currently developing a Floodplain Strategy (RWPC). For any flood control project, the RWCP is required by the Corps to ensure development activities that take place in the flood plain do not compromise the proposed design of the Truckee River Flood Management Project.

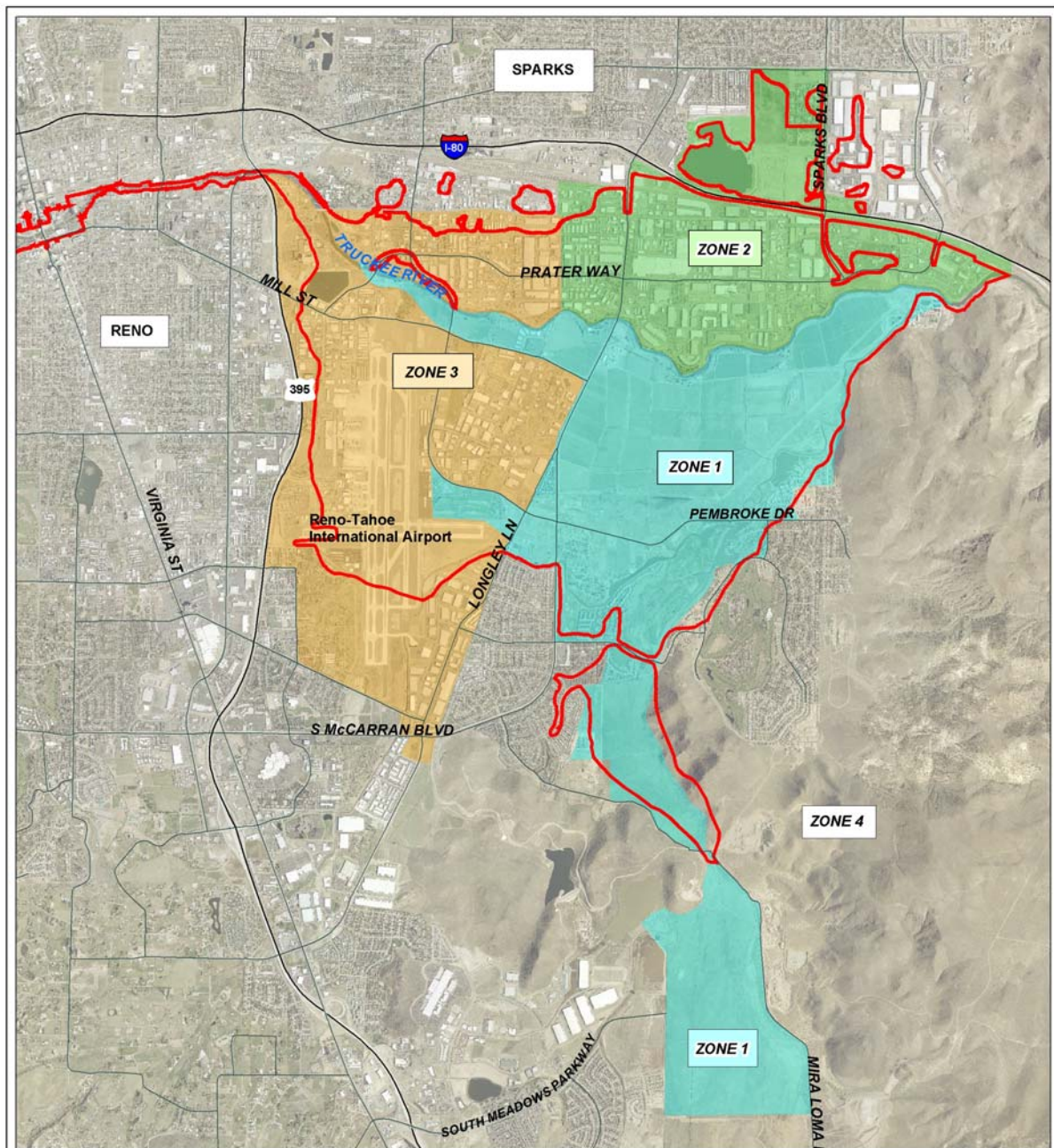
The Floodplain Management Strategy identifies the various types of flood hazards in Reno, Sparks and the unincorporated areas of southern Washoe County. It also identifies strategies to reduce the potential

damages associated with flood events while also potentially reducing flood insurance premiums for property owners within the area. The reduction of damages from increased flows and the loss of flood storage volume are the main goals of the strategy. Floodplain management is essential to ensure the Truckee Meadows Flood Control Project will remain effective to its designed flood event.

Flood Plain Storage Volume Mitigation Program: The ability to store floodwater on the flood plain is critical for the success of the proposed Truckee Meadows Flood Control Project. The future protection offered by the project could be compromised if flood plain storage is lost. Additionally, many properties that were built according to federal standards for the National Flood Insurance Program may be at risk because of the loss of flood plain storage.

In 2003, the RWPC initiated the Flood Plain Storage Volume Mitigation Program to ensure the Truckee Meadows Flood Control Project remains feasible and to minimize flood impacts in the future. Currently, a flood-engineering consultant is working cooperatively with city and county flood management officials to develop a program to mitigate losses in flood plain storage volume and to address the amount and timing of runoff from the surrounding watershed.

In order to develop in the flood plain a "no net loss" system was established to protect the design of the flood project and yet allow development to take place. This mitigation-based approach is dependant on four zones that have been established as part of the program. These zones have divided the flood plain and watershed to ensure storage is not lost in critical areas. The zones are described below and shown on the map provided.



TRUCKEE MEADOWS FLOOD PLAIN STORAGE ZONES

- Zone 1: Critical Flood Pool
- Zone 2: Existing Flood Pool
- Zone 3: Adjacent Sheet Flow Areas
- Zone 4: Remainder of Truckee River Watershed

□ 1997 Flood Boundary

SOURCE: REGIONAL WATER PLANNING COMMISSION



DATE: FEBRUARY 2004

Notes: The scale and configuration of all information shown hereon are approximate only and are not intended as a guide for design or survey work. Reproduction is not permitted without prior written permission from the Washoe County Department of Water Resources



Department of Water
Resources
WASHOE COUNTY
NEVADA

4930 Energy Way
Reno, Nevada 89502
(775) 954-4000



In Zone 1, flood storage must be mitigated on a one-for-one basis; for each cubic yard of fill material placed or available flood storage displaced, one cubic yard of new flood storage must be developed in that zone.

In Zone 2, storage loss also will have to be mitigated on a one-for-one basis to protect existing property improvements until the flood project is built.

Mitigation for properties in Zones 3 and 4 can be accomplished by re-examining the local government's policies on detention to assure the peak flows reaching the Truckee River are not impacting the flow at Vista.

More Information:

For more information on the Flood Plain Management Strategy or upcoming meetings please visit: www.co.washoe.nv.us/water/rwpc

Source: Washoe Water, Winter 2005, w/additions

The Purpose of an Environmental Impact Statement (EIS)

The first phase of the National Environmental Policy Act (NEPA) process requires a Federal agency to determine if NEPA applies to a proposed action. If it does, a preliminary assessment of the environmental effects of a proposed action is determined through the preparation of an Environmental Assessment (EA) in the second phase. If the Federal agency determines that the proposed action does not have the potential to significantly affect the quality of the human environment, then the agency prepares a Finding of No Significant Impact (FONSI). However, if the Federal agency determines that the proposed action will have significant environmental effects upon the completion of its EA, it must prepare an Environmental Impact Statement (EIS). If the federal agency knows that a particular project has significant environmental effects outright or feels that the project is particularly contentious

and will have public concern then the EA can be foregone to start work directly on an EIS. An EIS is a multifaceted document that serves a multitude of purposes. An EIS is a **problem-solving tool, action-forcing tool, and a public disclosure device.**

An EIS is a Problem-Solving Tool: When project-related environmental impacts are likely, an EIS is used as an important problem-solving tool. An EIS provides Federal agencies with a detailed analysis of environmental impacts and a thorough explanation of alternatives and mitigation measures. Problem solving capability is further increased by the involvement of interested agencies. Coordination between Federal agencies and the public is crucial in maximizing problem solving opportunities.

An EIS is an Action-Forcing Tool: The primary purpose of an EIS is to "serve as an action-forcing device to ensure that the policies and goals defined in NEPA are infused into the ongoing programs and actions of the federal government" (40 C.F.R 1500.1). The EIS was introduced in 1970 with the premise that Federal agencies would be more likely to make environmentally sound decisions if they were required to assess the environmental impacts that resulted, or potentially resulted, from their proposed actions.

An EIS is a Public Disclosure Device: An EIS discloses potential project-related environmental effects to Federal agencies, State and local governments, tribal communities, and the general public. The Council on Environmental Quality and NEPA regulations requires that an EIS provide "full and fair discussion of significant environmental impacts and shall inform the decision-makers and the public of the reasonable alternatives that would avoid or minimize adverse impacts or enhance the quality of the human environment." Information provided in an EIS not only aids Federal decision-making but also provides

valuable baseline and forecast information for non-Federal entities.

Programmatic Agreement Update

We have been working on a programmatic agreement (PA) over the last year. After the draft was prepared it was sent to the Nevada State Historic Preservation Office (SHPO) for review. The draft PA went through two review cycles with the SHPO before being sent out to the interested entities that have been invited to be concurring parties to the agreement. The concurring parties include: Washoe county, the cities of Reno and Sparks, Storey County, the Washoe Tribe of Nevada and California, the Pyramid Lake Paiute, the Reno-Sparks Indian Colony, the Stewart Community Council, the Woodsford Community Council, Dresslerville, Community Council, and the University Of Nevada, Reno.

Copies of the draft PA have been sent to all the above listed groups inviting them to be concurring parties. Thus far, only the Reno-Sparks Indian Colony has offered a comment. We anticipate that all groups will sign the PA. A copy of the PA with the Corps's final edits being sent to the Nevada SHPO for their final review.

Following that, the Corps will mail the PA out to everyone for signatures. After the district engineer, Colonel Light, and Ronald James, the Nevada SHPO, signs the PA, the PA will be considered to be executed and the Truckee

Meadows Flood Control Project will be in compliance with Section 106 of the National Historic Preservation Act. Additional information regarding the PA and cultural resources is on the project website.

Coming up in the April Newsletter

Report on what happened at the Public Meeting in Rainbow Bend on Mar 29, 2005.

Induced Flood Damages and Hydraulic Mitigation explained.

Making Contact

Visit our website at:

www.spk.usace.army.mil/projects/civil/truckeemeadows

Your questions and comments on the contents of this newsletter are welcome. Please contact us at the following e-mail address:

TruckeeMeadows@spk.usace.army.mil

Or by post at:

**Truckee Meadows Flood Control Project
US Army Corps of Engineers
1325 J Street (CESPK-PM-C)
Sacramento, CA 95814**